

Amendments to the Claims

1. (Currently Amended) A method of generically emulating devices communicating through a device connectivity protocol, the method comprising:

processing, in a generic device emulator able to emulate more than one device based on device descriptions, a description of a device to be emulated in the device connectivity protocol, the description specifying a set of actions of the device to be emulated;

in response to receiving an action request from a control point at the device emulator per the device connectivity protocol, checking the action request against the device description in the device emulator to validate which action out of the set of actions specified in the description the action request matches; and

upon validating an action to which the action request matches, producing, at the device emulator, a default response, the response based on the description such that, through the response the device emulator emulates operation of the device to be emulated.

2. (Previously Presented) The method of claim 1 wherein producing the default response comprises producing a response message containing a default value consistent with a data type specified for a return parameter of the action in the description.

3. (Currently Amended) The method of claim 1 wherein the validated action has a set of input and output parameters corresponding to state variables of the device to be emulated and wherein producing the default response comprises:

setting the corresponding state variables of the device to be emulated to values of the respective input parameters contained in the action request;

producing a response with output parameters set to values of the corresponding state variables of the device to be emulated; and

producing an eventing message if the action modified any evented variables.

4. (Previously Presented) The method of claim 1 further comprising:
providing hooks to interface user-provided action response implementations, if any, for the set of actions;
upon validating the action request to match the action, first checking whether there is a user-provided action response implementation for the action; and
producing the default response consistent with the description if there is no user-provided action response implementation, and otherwise performing the user-provided action response implementation for the action.
5. (Previously Presented) The method of claim 4 wherein the hooks interface user-provided action response implementations of at least one action out of the set of actions but not every action out of the set of actions.
6. (Currently Amended) The method of claim 1 further comprising:
applying a defect behavior to messages produced to emulate the device to be emulated in the device connectivity protocol;
7. (Original) The method of claim 6 wherein the defect behavior is applied to packets of a particular type.
8. (Original) The method of claim 6 wherein applying the defect behavior comprises invoking a user-provided implementation of the defect behavior.
9. (Currently Amended) The method of claim 1 further comprising randomly applying a defect behavior out of a set of defect behaviors to messages produced to emulate the device to be emulated in the device connectivity protocol.

10. (Currently Amended) A method of emulating devices communicating through a device connectivity protocol, the method comprising:

reading a device defect configuration file representing in a tagged text format at least one defect behavior to be applied to a type of packet transmitted as part of a message for a device emulated from an emulated device per the device connectivity protocol;

upon production of a valid packet for the emulated device ~~producing a packet, as part of a message, the valid packet being~~ of a type for which a defect behavior is represented in the device defect configuration file, and before transmitting the valid packet, applying the defect behavior to the valid packet to create an invalid packet for the emulated device; and

transmitting the invalid packet ~~from~~ for the emulated device as modified by applying the defect behavior.

11. (Original) The method of claim 10 wherein applying the defect behavior comprises invoking a user-provided implementation of the defect behavior.

12. (Currently Amended) The method of claim 11 further comprising randomly applying a defect behavior out of a set of defect behaviors to messages produced to emulate the emulated device in the device connectivity protocol.

13. (Currently Amended) Computer-readable media having stored thereon a software framework of a generic device emulator for execution on a computer to provide emulation of an operation of a device within a device connectivity architecture consistent with a textual description of the device, wherein the description of the device specifies data formats of requests and responses for a set of actions that the device is capable of, the generic device emulator comprising:

program code for, within the generic device emulator, receiving action requests directed to the device from a control point within the device connectivity architecture;

program code for, within the generic device emulator, checking an action ~~requests-request,~~ received from a control point, against the description to validate whether the action request matches that of an action specified in the description; and

program code for, within the generic device emulator, performing a default behavior producing a response for the action consistent with the data format specified in the description, thereby emulating operation of the device for the action.

14. (Currently Amended) The computer-readable media of claim 13 further comprising:
program code for providing hooks to interface user-provided action behavior implementations of one or more actions out of the set of actions; and

program code for checking upon validating that an action request matches that of the action specified in the description whether a user-provided action behavior implementation is presently hooked for the action; and

program code operating in a case that a user-provided action behavior implementation is presently hooked for the action to invoke the user-provided action behavior implementation in place of the default behavior.

15. (Original) The computer-readable media of claim 13 wherein performing the default behavior comprises producing a response message containing a default value consistent with the data format of the response specified for the action in the description.

16. (Original) The computer-readable media of claim 13 wherein the program code for performing the default behavior for the action in which the data format of the request and response has a set of input and output parameters corresponding to state variables of the device comprises:

program code for setting the corresponding state variables of the device to values of the respective input parameters contained in the action request; and

program code for producing the response with output parameters set to values of the corresponding state variables of the device.

17. (Previously Presented) The computer-readable media of claim 13 further comprising:
program code for reading a device defect configuration file representing in a tagged text format at least one defect behavior to be applied to a type of packet transmitted from the emulation of the device within the device connectivity architecture;
program code for applying the defect behavior to a packet upon producing the packet of a type for which a defect behavior is represented in the device defect configuration file; and
program code for transmitting the packet as modified by applying the defect behavior.